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ABSTRACT

New York City's public school system was challenged during the 1990s by fiscal pressures that coincided with a surge in student enrollment. The focus of this report is how the City's schools performed under these combined pressures. There were four major conclusions relating to disappointing school performance: school buildings grew more crowded; class sizes increased; the condition of school buildings deteriorated; academic achievement remained poor. Findings show that crowding increased in school buildings, with almost half of the city's 1,006 public school buildings being utilized at or above 100 percent of capacity. The average class sizes in 1990 were 30 for high school, 28 for grades four through nine, and 25 for kindergarten through grade three. By 1996 the size for these classes grew to 32, 26, and 29, respectively. Furthermore, buildings that were already in poor shape deteriorated. Unfortunately, the School Board was only able to allocate 20 percent of the necessary investment to bring the school buildings up to date. New York City students performed poorly on reading and mathematics competency tests. In 1990, 66 percent of third-graders and 71 percent of sixth-graders read at the State Reference Point (SRP) which is approximately one grade level below the students tested; for mathematics, the shares meeting or exceeding the SRP were 87 and 80 percent, respectively. The disappointing performance of the schools can be linked to six policies pursued by the Board of Education and the City of New York: cuts in spending per student (10 percent from 1990 to 1996); compensation increases rather than hiring more teachers; stagnant teacher productivity; cuts in maintenance spending (11 percent from 1990 to 1996); misguided capital investment; and underutilized buildings. Overall, the performance of New York City's public schools in the 1990s has been poor and the general outlook for the future is bleak. (Contains three figures and nine tables.) (RJM)

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THE STATE OF MUNICIPAL SERVICES IN THE 1990s: CROWDING, BUILDING CONDITIONS AND STAFFING IN NEW YORK CITY PUBLIC SCHOOLS

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2

THE STATE OF MUNICIPAL SERVICES IN THE 1990s: CROWDING, BUILDING CONDITIONS AND STAFFING IN NEW YORK CITY PUBLIC SCHOOLS

A Report of the
Citizens Budget Commission

FOREWORD

Founded in 1932, the Citizens Budget Commission (CBC) is a nonpartisan, nonprofit civic organization devoted to influencing constructive change in the finances and services of New York State and New York City government. This report was prepared under the auspices of the CBC's Municipal Services Committee, which I chair. The other members of the Committee are Harold I. Berliner, Alan M. Berman, Jeremiah Blitzer, Mark Brossman, Daniel J. Gross, Peter C. Hein, Jerome E. Hyman, William F. McCarthy, Frank J. McLoughlin, Frances Milberg, John R. Miller, Philip L. Milstein, Steven M. Polan, Adam R. Rose, Edward L. Sadowsky, Lee S. Saltzman, Barbara Z. Shattuck, Ronald G. Weiner, Eileen S. Winterble, and Lawrence B. Buttenwieser, ex-officio.

The Municipal Services Committee was created in the wake of the 1970s fiscal crisis to monitor and report on the manner in which City agencies used scarce public resources to produce services. By 1994 the Committee had supervised the preparation of 39 reviews of municipal agency performance, covering nine services—the uniformed agencies (fire, police, correction and sanitation), mass transit, education, health care, social services, and parks. At the opening of the 1995-1996 school year, the CBC sent a letter to New York City Schools Chancellor Ramon Cortines and Mayor Rudolph W. Giuliani calling on them to pursue actively productivity improvements in ongoing contract negotiations with the teachers union. The letter was accompanied by a memorandum detailing seven changes in the teachers contract that would save $250 million annually. One year later the CBC published a report criticizing the City's marginal solutions to school overcrowding. The report proposed to use schools more intensively through a longer school year, a longer school day, and two shifts of students—a solution that would eliminate crowding, rehabilitate all schools, and provide state-of-the-art technology for every classroom.

In December 1996, as part of the *Budget 2000 Project*, the CBC released the report *Public Education*. It recommended change in school governance to establish greater accountability, experiments with school vouchers and other innovations, and sustaining per pupil expenditures at levels above the national average.

This year the CBC began a new series of reports to assess how municipal agencies fared during an extended period of fiscal retrenchment, fiscal years 1990 to 1996. The first, on the Department of Correction, was released in June. In August, two reports were published covering the City's social services agencies and the Fire Department.

This report was written by Andrew S. Rein, Research Associate, under the direction of Charles Brecher, Executive Vice President and Director of Research, and Dean Michael Mead, Assistant Director of Research. Research assistance was provided by James Solodar. The report was prepared for publication by Nicolette Macdonald, Publications Coordinator.

Bud H. Gibbs
September 2, 1997

TABLE OF CONTENTS

EXECUTIVE SUMMARY v

INTRODUCTION 1

Purpose of this Study 2
The Challenges in 1990 2

RAPID ENROLLMENT GROWTH 4

RESPONSES TO ENROLLMENT GROWTH 5

Operating Expenditures Trailed Inflation and Enrollment 6
Staffing Lagged Enrollment 8
Real Maintenance Spending Declined 10
Capital Investment Increased 10
Teacher Productivity Was Stagnant 11
School Buildings Were Underutilized 13

THE CONSEQUENCES OF INADEQUATE POLICIES 13

Crowding Increased and Facilities Deteriorated 14
Academic Achievement Continued to be Poor 16

CONCLUSION 20

EXECUTIVE SUMMARY

Education is a critical public service. It should produce a workforce capable of performing in the future economy and a citizenry equipped to exercise its rights and responsibilities with critical judgment.

The New York City Board of Education runs the largest public school system in the nation, enrolling 1.1 million students at a cost of $8.6 billion in 1996, more than one-quarter of the operating budget of the City of New York. The Board employed 79,000 teachers and other pedagogical employees and 7,000 non-pedagogical employees. The City also invested $800 million for the construction and renovation of its 1,100 school buildings.

The City's public school system was challenged during the 1990s by fiscal pressures that coincided with a surge in student enrollment. The City contended annually with multi-billion-dollar budget gaps between fiscal years 1990 and 1996. At the same time, the student body increased by 117,706 or 13 percent. By contrast, enrollment grew just 2 percent between 1983 and 1990.

This report assesses how the New York City public schools performed under the combined pressures of scarce fiscal resources and increased enrollment. Performance is evaluated on three vital measures of education quality—facility crowding, building conditions and class sizes. The report also examines changes in academic achievement based on standardized test scores and rates of graduation.

Disappointing Performance

The four major conclusions relating to public school performance are:

① ***School buildings grew more crowded.*** At the advent of the 1990s almost half of the City's 1,006 public school buildings were utilized at or above 100 percent of capacity. Despite the addition of 81 buildings by 1996, 54 percent of the school buildings were crowded, and six of ten students attended school in a crowded building.

② ***Class sizes increased.*** The average high school class had 30 students in 1990, the average class in grades four through nine had 28, and the average kindergarten through grade three class had 25. By 1996 the size of the average high school and early elementary class grew to 32 and 26 students, respectively. In grades four through nine the average class increased to 29 students.

③ ***The condition of school buildings deteriorated.*** School buildings were already in poor shape when the decade began. The Board of Education found that 83 percent of the buildings needed capital repairs in 1988, 314 buildings required complete modernization, and the

backlog of needed capital spending was $5 billion. The Board's last comprehensive condition assessment (in 1993) found that capital funding allocated in the first four years of the decade equaled only 20 percent of necessary investment, the backlog had risen to almost $8 billion, and 47 buildings a year were moving to the list of schools needing full modernization. Funding for building rehabilitation after that time was less than one-third of the estimated need, indicating continued deterioration.

④ ***Academic achievement among public school students remained poor.*** New York City students performed poorly on reading and mathematics competency tests. In 1990, 66 percent of grade three students and 71 percent of grade six students read at the State Reference Point (SRP), which is approximately one grade level below the students tested; for mathematics, the shares meeting or exceeding the SRP were 87 and 80 percent, respectively. The City students' scores were particularly weak relative to the State as a whole, which ranged from 8 to 15 percentage points higher.

Between 1990 and 1996 reading performance declined in both absolute and relative terms. The share meeting the SRP decreased 10 percent for grade three and 9 percent for grade six; furthermore, the gap between City students and other State students widened. Performance on mathematics, on the other hand, improved. The evidence on graduation rates was mixed, with a smaller percentage of students graduating high school within four years, but a larger share within seven years.

Inadequate and Misguided Policies

The disappointing performance of the schools can be linked to six policies pursued by the Board of Education and the City of New York:

① ***Cuts in spending per student.*** Inflation-adjusted spending per student declined 10 percent to $8,112 from 1990 to 1996. The 10 percent decline aggregates all programs and grades, masking wide variations in resources allocated among groups of students. The budgeted cost per student increased 4 percent for special education to $21,291, but decreased 11 percent systemwide. By 1996 the budgeted cost per special education student was 2.8 times the systemwide average of $7,717. In this sense, the special education system was favored over general education.

② ***Compensation increases rather than hiring more teachers.*** Annual personnel-related expenditures increased in excess of $1 billion; these additional funds were mostly used to increase employee compensation. The compensation for a teacher hired in 1990 (including pay raises, yearly salary increments, health insurance and welfare fund contributions) increased 35 percent by 1996; for a teacher with three years' experience in 1990, total compensation grew 46 percent. Because the additional personnel spending was used for pay increases rather than to hire additional teachers to keep pace with enrollment, the ratio of students to teachers and other pedagogical employees rose from 12.1 to 13.4.

③ ***Stagnant teacher productivity.*** As a result of labor contract stipulations that were unchanged throughout the 1990-1996 period, just 64 percent of all general education teachers' time was devoted to direct instruction in the classroom. The remainder was spent on sabbaticals, non-instructional administrative assignments, union business and preparation time. Increasing classroom instructional time by ending paid sabbaticals and union work, and by reducing preparation periods to the norm of other large, urban school districts, would have the same impact as hiring over 4,300 teachers, but without the added cost.

④ ***Cuts in maintenance spending.*** Adequate maintenance keeps school buildings in good repair, which provides a safe learning environment for children and is critical for keeping down renovation costs. Unfortunately, the Board hastened the decline in facility conditions by cutting annual maintenance spending per square foot 11 percent in constant dollars during fiscal years 1990-1996. A blue-ribbon panel reported in 1995 that the Board's maintenance spending per square foot was just one-third of what was spent by the private sector.

⑤ ***Misguided capital investment.*** The Board was given significantly increased capital funds by the City in this period, but there was no viable strategy for using these resources. Faced with a need for more capacity and a backlog of modernization needs for existing facilities, the Board failed to set clear priorities. It sought both to construct new schools and renovate existing ones, but failed to achieve either objective well. The funds were spread too thin, and schools became more crowded and more dilapidated despite the expenditure of more than $5 billion in capital funds over the 1990-1996 period. Furthermore, the Board was unable to equip the schools properly with new technology; although the number of students per computer declined from 21 in 1990 to 15 in 1995, the Board recommends ratios of 8-to-1 in elementary and intermediate schools and 6-to-1 in high schools.

⑥ ***Underutilized buildings.*** The inadequacy of the Board's strategies to deal with crowding and poor conditions derives from its underutilization of the system's capital plant. School buildings were used to accommodate just a single six-hour-and-20-minute shift of students for 180 days a year. More intensive use of school buildings through year-round schooling and double-shifting students would increase capacity sufficiently to handle enrollment growth and completely relieve overcrowding.

Because the Board chose the ineffective path of allocating a major portion (38 percent) of its capital funds to new construction, resources were drawn away from rehabilitation and modernization. Pursuing a strategy of more intensive use of school buildings, however, would reduce the number of needed school buildings as much as one-third, leaving funding sufficient to bring most or all of the remaining buildings up to a state of good repair, and equipping them technologically to meet the demands of 21st Century pedagogy.

Future Prospects

The student body continues to become more numerous—18,261 students were added in fiscal year 1997, and another 18,000 are expected in 1998. Despite a one-time windfall in tax revenue from Wall Street last fiscal year, the combined pressures of scarce fiscal resources and increased enrollment will continue. Constant-dollar spending per pupil was flat in 1997 and is projected to decline another 1.1 percent in 1998.

The prospects are dim for a reversal of City policy that keeps teacher productivity stagnant. The most recent teachers contract, which is in effect until 2000, did not increase teacher instructional time, but will increase costs by an estimated $70 million because it excuses teachers from administrative tasks and requires the hiring of replacement employees. If it is signed into law by the Governor, a pension bill passed by the State Legislature would increase costs while depriving the school system of its most experienced teachers.

Opportunities to use school buildings more productively are still open. However, the Board has no plans to move significant numbers of children to year-round schooling or double shifting. Given this failure to adopt new policies, schools are likely to become more crowded and dilapidated, pupil-teacher ratios and class sizes will grow larger, and schools will lag further behind advances in educational technology as the City's school system enters the next century.

INTRODUCTION

Education is a critical public service. It should produce a workforce capable of performing in the future economy and a citizenry equipped to exercise its rights and responsibilities with critical judgment.

The New York City public school system is the largest in the nation, enrolling over one million students and spending $8.6 billion in 1996, more than one-quarter of the annual operating budget of the City of New York. Since education is labor-intensive, three of four operating dollars went to compensate the school system's 79,000 pedagogical and 7,000 non-pedagogical employees. The City also spent over $800 million in fiscal year 1996 to construct and rehabilitate school facilities.

Although the City of New York finances the public school system, the mayor does not control it. The schools' governing body is the seven-member Board of Education. One member is appointed by each borough president and two are appointed by the mayor. The Board appoints a chancellor, who serves as the system's chief executive; however, 32 locally elected school boards directly oversee the operations of elementary and intermediate schools. During the period covered in this report, local boards had the authority to hire district superintendents and influence the hiring of principals.[1] Nevertheless, the authority over most educational policies remained with the central Board. An important exception is policies determining employment conditions for teachers, which are established through collective bargaining. While in a strictly legal sense collective bargaining takes place between the United Federation of Teachers (UFT) and the Board, it typically is the mayor's labor negotiators who speak for the Board in negotiation.

In addition to the regular school curriculum, the Board is required by the federal and State governments to provide distinct educational programs to students with special needs. Students designated as having certain physical, emotional or developmental limitations are provided special education programs. Ungraded special education students are taught in self-contained classes completely outside of the schools' regular grade structure. Others are enrolled in the mainstream grade structure, but receive special instruction as part of their daily schedule. Overall, 14 percent of the student body receives special education instruction, slightly more than half of whom are in separate ungraded classes, with the remainder receiving part-time services that supplement regular instruction. The Board also provides another set of educational programs

[1] In 1997, the State of New York enacted legislation transferring the authority to hire superintendents to the chancellor and giving him larger powers to intervene at the local level. For a more complete description of school governance issues, see Richard Delaney, *Budget 2000 Project: Public Education* (NY: Citizens Budget Commission, December 1996).

to students with limited English proficiency (LEP). About 15 percent of the students receive some English-as-a-second-language (ESL) and/or bilingual instruction.[2]

Purpose of this Study

This report analyzes how the New York City public school system performed between fiscal years 1990 and 1996, a period of scarce fiscal resources and growing enrollment. This assessment focuses on three important aspects of the quality of education—school crowding, the physical conditions of school buildings, and class sizes. This study does not evaluate the impacts of pedagogical initiatives such as curriculum changes and teacher training, or of school governance changes such as the recently expanded powers of the chancellor, although both may significantly affect the measures of academic achievement presented in this report.

To provide a reference point, this introduction concludes with a description of the school system in fiscal year 1990. The first of the four remaining sections of the report describes the substantial enrollment growth since 1990. The next section details the resources allocated to meet this increased enrollment. The third analyzes the changes in system performance—crowding, class size and condition of buildings as well as academic achievement—which accompanied the enrollment and resource changes. The last section summarizes the findings and considers the future outlook.

The Challenges in 1990

In fiscal year 1990, the Board spent $6.9 billion to serve 939,638 public school students.[3] In addition over $1 billion had been invested in the school system's physical plant since fiscal year 1985. Still, the schools typically were crowded, dilapidated halls of poor academic performance.

Crowding was evident in the proportion of school buildings exceeding their capacity. Although the system's physical plant was large—105 million net square feet—almost half of the 1,006 school buildings were utilized at or above 100 percent of capacity.[4] Fully 71 percent of the high school buildings were overcrowded, as were 51 and 24 percent of the elementary and intermediate school buildings, respectively. In addition, fully three-quarters of the high school students and 55 percent of elementary school students were obliged to attend an overcrowded school.

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[2] These percentages are not mutually exclusive; some students are enrolled in both special education and bilingual/ESL programs. Bilingual education programs include an ESL component along with academic instruction in the student's native language.

[3] Except where noted, all years are City fiscal years, which run from July 1 through June 30 and correspond to the year in which they conclude. For example, fiscal year 1990 began on July 1, 1989, and ended on June 30, 1990.

[4] Capacity and enrollment figures are from New York City Board of Education, *School Facilities: Enrollment-Capacity-Utilization* and *School Facilities: Enrollment-Capacity-Utilization High Schools*, school years 1989-1990 through 1995-1996 editions. Special education buildings and alternative high schools are excluded because accurate data are not available.

Related to the crowding was a pattern of large class sizes. The average high school class had 30 students, and there were 2,236 high school classes in the fall of 1989 with more than 34 students. The average class in grades four through nine had 28 students, and the average kindergarten through grade three class had 25 students. According to the State Education Department, the average New York City class size in grades one through six was 16 percent larger than the statewide average, and 11 percent larger than the average for large city districts for the 1990-1991 school year.[5]

Years of deferred maintenance and lack of capital investment had left the schools dilapidated and technologically outdated. Fully 83 percent of the buildings were in need of capital repairs and 314 school buildings required full modernizations.[6] The backlog of needed capital spending was estimated to be $5 billion, almost 13 times the annual capital expenditures in 1990. Although modern technology is critical to quality education, there was only one computer for every 21 students in New York City public schools, while in the rest of New York State there were fewer than 14 students per computer.[7]

Academic achievement also was poor. Only 37 percent of students in grade three read at grade level, and only 66 percent read above the State Reference Point (SRP)—approximately the grade two level. Statewide, 81 percent of the students in grade three met this criterion. Performance for grade three students in mathematics was better, with 60 percent at grade level; 87 percent were at or above the SRP, which is closer to the statewide rate of 94 percent. Only 43 percent of students graduated from high school after four years, and 66 percent graduated after seven.[8] Stated differently, one of five high school students dropped out within four years and one-third never graduated.

Although one of eight students was enrolled in a special education program, these efforts were rarely effective. Three of five students with disabilities were placed in full-time special education in New York City, three times the national average.[9] Furthermore, once students entered special education, opportunities to return to the mainstream were limited. Less than 2 percent of the pupils were decertified from special education, and just 7 percent of the students in

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[5] New York State Education Department, *The State of Learning* (Albany, NY: NYSED, February 1994).

[6] These 1988 data were included in the *Year 2000 Master Plan*, which was adopted by the Board in 1989. Data for fiscal year 1990 are not available. Data cited in New York City Board of Education, *Year 2003 Master Plan: Ten Year Facilities Need Assessment for the New York City Public Schools* (NY: NYCBOE, April 28, 1993).

[7] These figures include computers used for administrative purposes and are calculated from data in New York State Education Department, *The State of Learning* (Albany, NY: NYSED, February 1996); *Public School Enrollment and Staff*, 1990-91 through 1994-95 editions; and additional data provided by the State Education Department.

[8] The four-year graduation rate is calculated excluding students who transferred out or were discharged. New York City Board of Education, *The Cohort Report: Four-Year Results for the Class of 1990 and Follow-ups of the Classes of 1987, 1988 and 1989 and the 1989-1990 Annual Drop-out Rates* (NY: NYCBOE, August 1990), p. 11. These data are not included in Table 9 of this report since these are June graduation figures, and in the following years are August figures.

[9] National figures are for students ages six through 11. Norm Fruchter, Robert Berne, Ann Marcus, Mark Alter and Jay Gottlieb, *Focus on Learning* (NY: New York University Institute for Education and Social Policy, October 1995), p. 13.

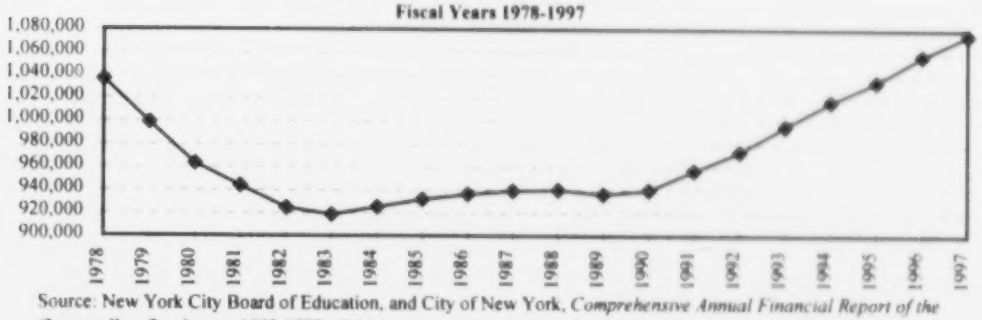
self-contained special education classes were moved to a more mainstream environment as a result of re-evaluation.[10]

Special education also was not serving the right students. Many students were placed in special education because of the inadequacy of the general education system rather than the students' educational disabilities.[11] Many referrals and placements were made to provide needy students additional resources or to relieve teachers of problem students. Furthermore, there was no evidence that special education improved students' academic performance. Reading scores improved from below grade level to grade level or above between 1990 and 1992 for less than 3 percent of elementary school students in self-contained classes.[12]

RAPID ENROLLMENT GROWTH

During the 1990-1996 period, public school enrollment soared. (See Figure 1.) From the late 1970s until 1983 enrollment had declined. Between 1983 and 1990 enrollment increased 21,254 students, an annual average of 0.3 percent. Starting in 1990 enrollment exploded, so that by 1996 the student body had increased 117,706 or 13 percent. This 2 percent average annual increase was six times faster than in 1983-1990. The enrollment surge is expected to continue at a reduced pace: Enrollment increased 1.7 percent in 1997, and is projected to grow 1.7 percent in 1988 and 1.2 percent in 1999.[13]

Figure 1
New York City Public School Enrollment
Fiscal Years 1978-1997



Source: New York City Board of Education, and City of New York, *Comprehensive Annual Financial Report of the Comptroller*, fiscal years 1983-1989 editions.

[10] Jay Gottlieb and Mark Alter, *An Analysis of Referrals Placement, and Progress of Children with Disabilities Who Attend New York City Public Schools* (NY: New York University School of Education, undated), pp. 7, 20-21.
[11] *Ibid.*, and the Commission on Special Education, *Special Education: A Call for Quality*, Final Report to Mayor Edward I. Koch (NY: City of New York, Office of the Mayor, April 1985).
[12] Gottlieb and Alter, *op. cit.*, p. 15.
[13] The Board predicts enrollment growth of 18,000 for fiscal year 1998, as reported in Sarah Kershaw, "Early Registration for Schools," *Newsday*, August 5, 1997, and Denise Buffa, "Small frys' schools of sardines," *New York Post*, August 11, 1997. Fiscal year 1999 projection provided by the New York City Mayor's Office of Operations.

Enrollment grew the most in elementary schools, 51,058 students or 12 percent between 1990 and 1996.[14] (See Table 1.) Proportionately, high school enrollment grew most rapidly—19 percent from 240,500 to 291,400. However, this was partially the result of shifting some grade nine students from intermediate to high schools; the growth in grades 10 through 12 was 9 percent. Intermediate school enrollment rose 8 percent, adding 13,645 students; controlling for the shifts in grades six and nine, the remaining intermediate grades increased 5 percent.

Table 1
New York City Public School Enrollment
Fiscal Years 1990-1997

	Fiscal Year								1990-1996 Change	
	1990	1991	1992	1993	1994	1995	1996	1997	Number	Percent
Pre-kindergarten	12,468	12,088	11,832	12,303	12,513	13,005	13,215	13,672	747	6.0%
Elementary school	443,836	451,488	455,692	460,812	468,752	481,667	494,894	504,401	51,058	11.5%
Intermediate school	170,806	174,039	177,449	179,618	182,356	183,101	184,451	183,704	13,645	8.0%
High school	240,518	247,020	255,547	268,643	277,502	279,522	285,202	291,382	44,684	18.6%
Home instruction	993	1,144	1,117	934	972	1,093	1,270	1,275	126	11.0%
Special education	71,017	70,879	71,626	73,155	74,633	75,847	78,312	81,171	7,295	10.3%
Total	939,638	956,658	973,263	995,465	1,016,728	1,034,235	1,057,344	1,075,605	117,706	12.5%

Source: New York City Board of Education.

Enrollment in special programs also increased. The number of LEP students grew 52 percent from 110,246 in 1990 to 167,602 in 1996.[15] Total special education enrollment increased 27 percent from 119,589 to 151,419. Growth in full-time, ungraded special education was 10 percent, below the average systemwide growth. However, enrollment in part-time special education grew 51 percent from 48,572 to 73,107.

RESPONSES TO ENROLLMENT GROWTH

The dramatic growth in public school enrollment between 1990 and 1996 threatened to exacerbate already serious problems. The increased need for resources coincided with a period of fiscal stress in which the City was hard-pressed to maintain services while closing multi-billion-dollar budget gaps. Faced with the competing pressures of rapidly growing enrollment and scarce resources, the City reduced operating spending per student, focusing instead on increasing investment in the physical plant. Furthermore, the Board failed to take advantage of opportunities to improve the productivity of its employees and its facilities.

[14] During the period some students in grade six were transferred to intermediate schools; adjusting for this shift, the number of students in the remaining elementary grades actually increased 13.3 percent.

[15] Data in this paragraph from City of New York, Mayor's Office of Operations, *The Mayor's Management Report*, fiscal years 1990-1996 editions.

Operating Expenditures Trailed Inflation and Enrollment

Between 1990 and 1996 real spending per student was cut 10 percent. Although total operating expenditures increased 24 percent from $6,891 million to $8,572 million, spending did not keep pace with the combined effects of inflation and enrollment growth. Inflation-adjusted expenditures for direct operations increased only 0.4 percent between 1990 and 1996. (See Table 2.) Spending would have declined had it not been for a 21 percent real increase in federal funds. In fact, City-funded spending was cut 3 percent in real dollars; this reduction was most dramatic between 1994 and 1996, when City funds were cut 8 percent.

Table 2
New York City Board of Education Operating Expenditures
Fiscal Years 1990-1996

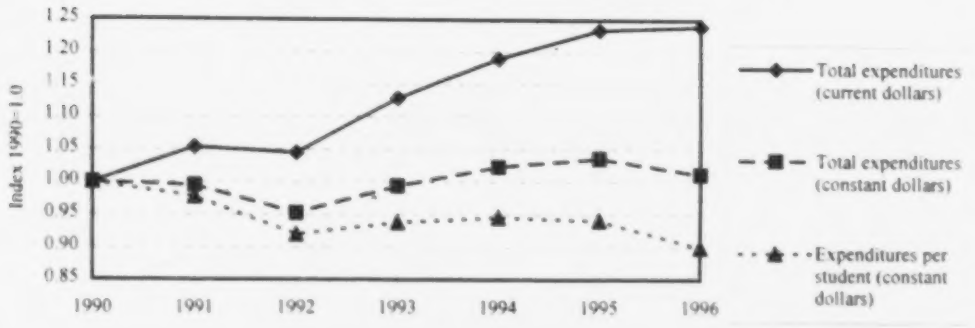
	Fiscal Year							Percentage Change
	1990	1991	1992	1993	1994	1995	1996	1990-1996
Total Expenditures, millions of current dollars	$6,891	$7,186	$7,141	$7,877	$8,193	$8,513	$8,572	24.4%
Direct operating expenditures	6,365	6,694	6,626	7,213	7,561	7,863	7,835	23.1%
City	2,632	2,687	2,756	2,973	3,226	3,172	3,130	18.9%
State grants	3,078	3,261	3,105	3,310	3,402	3,788	3,754	22.0%
Federal grants	613	670	751	869	885	868	908	48.3%
Other	43	76	15	61	48	35	43	0.0%
Other operating expenditures *	526	492	515	664	632	650	737	40.1%
Debt service	142	164	227	280	318	331	388	173.4%
Pension contributions	385	328	287	384	314	319	350	-9.1%
Total Expenditures, millions of constant dollars	$8,446	$8,318	$7,980	$8,496	$8,628	$8,752	$8,572	1.5%
Direct operating expenditures	7,801	7,749	7,405	7,780	7,963	8,084	7,835	0.4%
City	3,226	3,110	3,080	3,207	3,397	3,261	3,130	-3.0%
State grants	3,772	3,775	3,469	3,571	3,583	3,895	3,754	-0.5%
Federal grants	751	775	839	937	932	892	908	21.0%
Other	52	88	17	65	50	36	43	-18.4%
Other operating expenditures *	645	569	575	716	665	668	737	14.3%
Debt service	174	189	254	302	335	341	388	123.1%
Pension contributions	471	380	321	414	331	328	350	-25.8%
Expenditures per student, current dollars	$7,334	$7,512	$7,337	$7,913	$8,058	$8,231	$8,108	10.5%
Expenditures per student, constant dollars	$8,989	$8,695	$8,199	$8,535	$8,486	$8,463	$8,108	-9.8%

Sources: City of New York, *Comprehensive Annual Financial Report of the Comptroller*, fiscal years 1990-1996 editions. Conversion to constant fiscal year 1996 dollars based on U.S. Bureau of Labor Statistics, "Consumer Price Index for All Urban Consumers (CPI-U) in the New York-Northeastern New Jersey Area."

Note: * Allocation of other operating expenditures among funding sources is not available.

Overall operating spending—including debt service and contributions to pension plans—grew just 1 percent in constant dollars between 1990 and 1996, substantially lagging enrollment growth. (See Figure 2.) Consequently, inflation-adjusted spending per student was cut 10 percent during the period. Between 1990 and 1996 there was significant variation—a 9 percent decline between 1990 and 1992, a 4 percent increase between 1992 and 1994, and another 4 percent cut between 1994 and 1996.

Figure 2
New York City Board of Education
Change in Current- and Constant-Dollar Expenditures,
and Constant-Dollar Expenditures Per Student, Fiscal Years 1990-1996



The 10 percent decline in real expenditures per student aggregates all programs and grades, masking the wide variation in resources allocated among different groups of students. Disaggregated data on actual expenditures per pupil are not available, but the budgeted cost per pupil—as opposed to actual spending—indicates that constant-dollar outlays per student increased for special education, but decreased for general education. (See Table 3.) In 1990 the budgeted amount per pupil was $20,524 for full-time special education students (in fiscal year 1996 dollars), almost 2.4 times the $8,710 systemwide average. Between 1990 and 1996 the budgeted amount per student increased 4 percent for special education, but it decreased 11 percent systemwide. High school students were the hardest hit (a 24 percent decrease), followed by declines of 7 percent for intermediate school students and 0.3 percent for elementary school students. In this sense, the special education system was favored over general education.

Table 3
New York City Board of Education
Constant-Dollar Budgeted Amount Per Pupil
Fiscal Years 1990-1996

	Fiscal Year							Percentage Change
	1990	1991	1992	1993	1994	1995	1996	1990-1996
Total Systemwide	$8,710	$8,321	$7,912	$7,932	$7,636	$7,921	$7,717	-11.4%
Elementary school	7,250	6,954	6,682	6,672	6,440	NA	7,229	-0.3%
Intermediate scho	8,136	7,666	7,136	7,156	6,952	NA	7,591	-6.7%
High school	8,277	7,722	6,970	7,119	6,917	NA	6,331	-23.5%
Special education	$20,524	$20,536	$20,827	$20,805	$20,235	NA	$21,291	3.7%

Sources: City of New York, Mayor's Office of Operations, *The Mayor's Management Report*, fiscal years 1990-1996 editions
Conversion to constant fiscal year 1996 dollars based on U.S. Bureau of Labor Statistics, "Consumer Price Index for All Urban Consumers (CPI-U) for the New York-Northeastern New Jersey Area."
NA - Not Available

Staffing Lagged Enrollment

Personnel-related expenses increased 19 percent between 1990 and 1996.[16] However, the additional $1.1 billion was not used to hire more staff; total employment actually declined 0.4 percent and the number of pupils per employee increased 13 percent. Instead, the funds were used to increase employee compensation.

Table 4
New York City Board of Education
Compensation Increases for Representative Teachers
Fiscal Years 1990-1996

	Fiscal Year							Percentage Change 1990-1996
	1990	1991	1992	1993	1994	1995 [a]	1996	
Minimum	$27,961	$29,696	$29,949	$30,181	$30,937	$32,540	$33,121	18.5%
Salary	25,000	26,375	26,375	26,375	26,903	28,264	28,749	15.0%
Health benefits [b]	2,016	2,276	2,529	2,636	2,989	3,131	3,127	55.1%
Welfare funds	945	1,045	1,045	1,170	1,045	1,145	1,245	31.7%
Entry-Level Teacher Starting in 1990	$27,961	$30,224	$31,004	$31,764	$33,089	$35,367	$37,615	34.5%
Salary	25,000	26,903	27,430	27,958	29,055	31,091	33,243	33.0%
Health benefits [b]	2,016	2,276	2,529	2,636	2,989	3,131	3,127	55.1%
Welfare funds	945	1,045	1,045	1,170	1,045	1,145	1,245	31.7%
Teacher with Masters Degree and 3 Years Experience before 1990	$32,701	$35,224	$36,005	$37,722	$42,500	$46,927	$47,753	46.0%
Salary	29,740	31,903	32,431	33,916	38,466	42,651	43,381	45.9%
Health benefits [b]	2,016	2,276	2,529	2,636	2,989	3,131	3,127	55.1%
Welfare funds	945	1,045	1,045	1,170	1,045	1,145	1,245	31.7%
Maximum	$52,961	$56,071	$56,324	$56,556	$57,840	$60,806	$64,372	21.5%
Salary	50,000	52,750	52,750	52,750	53,806	56,530	60,000	20.0%
Health benefits [b]	2,016	2,276	2,529	2,636	2,989	3,131	3,127	55.1%
Welfare funds	945	1,045	1,045	1,170	1,045	1,145	1,245	31.7%

Sources: "Agreement between The Board of Education of the City School District of the City of New York and United Federation of Teachers," editions covering September 9, 1987-September 30, 1990, October 1, 1990-September 30, 1991, October 1, 1991-October 15, 1995, and October 16, 1995-November 15, 2000. Health insurance figures based on data provided by New York City Office of Labor Relations.

Notes: [a] Includes a 2 percent increase in base salaries on April 1, 1994, and a 3 percent increase in base salaries on October 1, 1994.

[b] Average cost per HIP health insurance contract. Fiscal year 1996 rate is estimated based on rate change between fiscal years 1995 and 1996 for individuals and families.

Compensation is determined by collective bargaining agreements with the UFT. Table 4 shows that these agreements significantly increased compensation for teachers. Between 1990 and 1996 the minimum base salary increased 15 percent from $25,000 to $28,749, and the maximum base salary increased 20 percent, from $50,000 to $60,000. However, this is not representative of the actual wage progression because the contracts also provide "steps" and "longevity increments" in addition to base salary increases. Consequently, the salary of an entry-level teacher who started in 1990 increased 33 percent by 1996, and the salary for an experienced teacher with a masters degree increased 46 percent. The City also pays for health insurance for municipal employees and their families, the average cost of which rose 55 percent during the 1990-1996 period. Finally, the contracts provided for a 32 percent increase in contributions to

[16] Personal service and pension expenditures from City of New York, *Comprehensive Annual Financial Report of the Comptroller*, fiscal years 1990-1996 editions.

union welfare funds, which offer employees supplemental benefits like eyeglass and prescription plans. Thus, the entry-level teacher's total compensation increased 35 percent, or 5 percent annually on average, and the experienced teacher's compensation increased 46 percent, or 7 percent annually.[17]

While personal service costs rose to fund increased employee compensation, full-time employment decreased from 86,105 in 1990 to 85,733 in 1996. (See Table 5.) A 19 percent reduction in non-pedagogical employees was offset by a 2 percent increase in pedagogical employees. Though the number of pedagogical employees grew during the overall period, they would have grown significantly more if not for a 3 percent drop in 1996 fueled in part by an early retirement program. Significant new hiring of pedagogical employees in fiscal year 1997 still left their number below the 1995 level.

Table 5
New York City Board of Education Full-Time Employment
Fiscal Years 1990-1997

	Fiscal Year								Percentage Change
	1990	1991	1992	1993	1994	1995	1996	1997	1990-1996
Full-Time Employees *	86,105	86,132	83,778	85,863	88,511	88,393	85,733	87,094	-0.4%
Pedagogical employees	77,425*	77,901	75,894	77,914	80,358	81,238	78,681	80,289	1.6%
Non-pedagogical employees	8,680	8,230	7,884	7,949	8,153	7,155	7,052	6,806	-18.8%
Pupils per Full-Time Employee	10.9	11.1	11.6	11.6	11.5	11.7	12.3	12.3	13.0%
Pedagogical employees	12.1	12.3	12.8	12.8	12.7	12.7	13.4	13.4	10.7%
Non-pedagogical employees	108.3	116.2	123.4	125.2	124.7	144.5	149.9	158.0	38.5%

Sources: Employment data provided by New York City Office of Management and Budget; enrollment data from the New York City Board of Education.

Note: * Monthly average employees.

The opposing trends in employment and enrollment drove up the ratio of pupils to employees from 11 to over 12. The change was much greater for non-pedagogical employees, increasing from 108 to 150 pupils per employee. Pupils per pedagogical employee increased from 12 to more than 13.[18]

[17] These compensation figures do not include pension costs, which declined over the period due to the strength of the stock market.

[18] Comparative data provide perspective into the Board's level of pedagogical employment. The City consistently had more pupils per classroom teacher than New York State as a whole. Data from New York State Education Department, *Public School Enrollment and Staff*, 1990-91 through 1994-95 editions, show that between fiscal years 1991 and 1995, the City averaged 13 percent more pupils per classroom teacher than the State.

Real Maintenance Spending Declined

A portion of the operating budget is devoted to maintaining the school buildings. Adequate maintenance helps to keep the physical plant in a state of good repair, which provides a safe learning environment for children and is critical to keeping down capital repair and renovation costs.

The schools began the decade in a state of disrepair, and were further harmed by cuts in funds for upkeep and repairs. Between 1990 and 1996 maintenance spending per square foot declined 11 percent from $0.97 to $0.86 (in fiscal year 1996 dollars). Maintenance funding was extremely low compared to spending on other types of real estate. The Commission on School Facilities found that on average the private sector spent $1.50 more per square foot on maintenance than the Board.[19] In other words, the private sector spent three times as much. Compared with the guidelines of some other school districts, the Board's maintenance spending was only 20 percent of what was necessary to keep pace with the replacement life-cycles of its facilities.[20]

Capital Investment Increased

The Board and the City responded to the deteriorating physical plant and enrollment growth by significantly increasing capital spending. Between 1990 and 1996 annual capital expenditures averaged $702 million, almost five times the level during the previous seven-year period (1983-1989).[21]

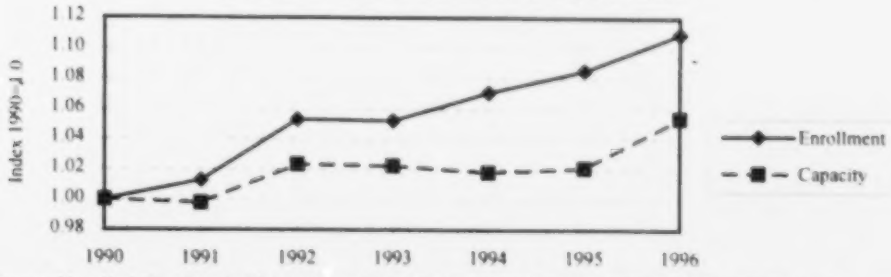
The Board's capital strategy simultaneously sought ① to rehabilitate the run-down buildings to bring them to a state of good repair, and ② to construct new capacity to relieve crowding and accommodate enrollment growth. During the 1991-1996 period school modernizations and the rehabilitation and replacement of major building systems (like heating, electric and roofs) accounted for 44 percent of the value of capital contracts.[22] Another 17 percent went for administrative buildings, vocational education enhancements, and to meet State and federal mandates (e.g., access for the handicapped).

About 38 percent of the capital commitments were for building new school space. The square footage of the school system grew 12 percent and seating capacity increased 5 percent between 1990 and 1996. The additional seating, however, did not accommodate the growth in

[19] Commission on School Facilities and Maintenance Reform, *Report of the Commission on School Facilities and Maintenance Reform* (NY: The Commission, June 1995).
[20] Calculated from data in *Ibid.*
[21] City of New York, *Comprehensive Annual Financial Report of the Comptroller*, fiscal years 1983 through 1996 editions.
[22] These percentage distribution figures refer to commitments, not expenditures. Commitments are the value of capital project contracts awarded by the City in a given year. City of New York, Office of Management and Budget, *Executive Budget: Message of the Mayor*, fiscal years 1993-1998 editions.

enrollment.[23] (See Figure 3.) To do so, the Board would have had to add twice as many seats as it did—and this still would not have dealt with the overcrowding that already existed. Expanding capacity to alleviate overcrowding and accommodate enrollment growth would have consumed the funds used for modernization, rehabilitation and replacement.

Figure 3
New York City Board of Education
Capacity and Enrollment Growth, Fiscal Years 1990-1996



Source: New York City Board of Education, *School Facilities: Enrollment-Capacity-Utilization* and *School Facilities: Enrollment-Capacity-Utilization High Schools*, school years 1989-1990 through 1995-1996 editions.

Teacher Productivity Was Stagnant

A decline in spending per student does not necessarily reduce services to students; likewise, growth in the number of pupils per pedagogical employee does not necessarily result in larger classes. Changing the way human resources are utilized can allow managers to maintain or increase the volume and quality of services while spending less per unit of service. Because teacher compensation accounts for a majority of school spending, teacher productivity is of signal importance. Improving teacher productivity—by increasing the time spent teaching students in a classroom—can mitigate the impact of lower spending per pupil and larger student-teacher ratios. Yet, during this period of fiscal stress and enrollment growth, teacher productivity was stagnant.

Teachers spend only a portion of their time in front of a classroom. The primary determinant of the length of this time is the collective bargaining agreement between the Board and the UFT. The contract allocates teachers' instructional time and provides benefits that divert teachers from instruction. It stipulates the length of the school day, the number of preparation periods for teachers at each school level, and possible administrative assignments. The contract also provides sabbaticals for travel or study and commits the Board to pay teachers for a portion of the time they spend on union activities.

[23] Capacity and enrollment figures are from New York City Board of Education, *School Facilities: Enrollment-Capacity-Utilization* and *School Facilities: Enrollment-Capacity-Utilization High Schools*, school years 1989-1990 through 1995-1996 editions. Data for special education buildings and alternative high schools are not included because they are not available for all years. Therefore, the enrollment increase does not correspond with Table 1.

As a result of these provisions, only 64 percent of all general education teachers' time in 1994 was devoted to direct instruction.[24] (See Table 6.) The balance of this time was allocated to other tasks, including preparation periods (15 percent), administrative and non-instructional assignments (14 percent), and sabbaticals and union representation (4 percent). In other words, for every two teachers teaching in a classroom, there was a third who was engaged in other activities.

Table 6
New York City Board of Education
Assignments for General Education Teachers in 1994

	Number of Teachers	Percentage Distribution
Classroom Instruction	34,257	66.8%
Present in classroom	32,663	63.7%
Absent (sick leave)	1,222	2.4%
Absent (other)	372	0.7%
Scheduled Preparation for Class	8,670	16.9%
Periods for class preparation	7,636	14.9%
Periods used for administrative assignments	1,034	2.0%
Other	8,337	16.3%
Union representation	206	0.4%
Travel/study sabbaticals	1,773	3.5%
Other leaves	206	0.4%
Other non-instructional assignments	6,152	12.0%
Total	51,264	100.0%

Source: Richard Delaney, "Productivity Enhancement for General Education Teachers," memorandum to the Citizens Budget Commission's Municipal Services Committee, August 31,1995.

During the 1990-1996 period, two changes affected the share of teachers' time in the classroom. First, the contract covering October 1, 1991, to October 15, 1995, provided some elementary school teachers with two additional preparation periods per week, thereby reducing time in the classroom. Second, early retirement incentives in the latter part of the period may have resulted in the departure of more senior teachers working full-time in non-instructional positions; this would have the impact of increasing the overall share of classroom time. However, this did not increase the amount of time classroom teachers spent teaching between 1990 and 1996.

The 1990s were a lost opportunity to shift more teacher time from non-instructional activities to classroom teaching, and thus to mitigate the negative consequences of rising student-teacher ratios and falling per pupil spending. The Board and the City did not take advantage of the opportunities to improve teacher productivity by eliminating paid sabbatical leaves and time spent working on union business, and by reducing in-school preparation time to the norm of

[24] Richard Delaney, "Productivity Enhancement for General Education Teachers," memorandum to the Citizens Budget Commission's Municipal Services Committee, August 31,1995.

other large, urban school districts. Taking these actions would have had the same effect as hiring nearly 4,300 additional teachers, but at no additional cost.[25]

School Buildings Were Underutilized

Similar to human resources, the school system's physical plant could have been used more productively to relieve crowding and poor conditions. Instead, the school buildings were used during 1990-1996 to educate a single six-hour-and-20-minute shift of students each day for 180 days per year.[26] Therefore, school buildings were not used for basic educational purposes for a significant portion of every day and a large part of the year.

Changing this policy to use buildings more intensively would have been less costly and more effective than the Board's approach of adding more seats through new construction, temporary facilities and leasing. Combining an extended school year, longer school days, and two shifts of students per day would double school building capacity.[27] New construction would not be necessary to accommodate enrollment growth, since more productive use of the schools would effectively increase capacity without additional buildings. In fact, only 709 school buildings, or 65 percent of the existing stock, would be needed to accommodate all the students, and thus one-third of the existing buildings (those in the worst condition) would not have to be renovated, rehabilitated, or modernized. If schools were operated year-round, without double-shifting, enrollment could be accommodated and the need for new construction eliminated. In either case, freeing the funds from new construction would allow the renovation and modernization of all or most of the remaining buildings, an accomplishment which is not currently affordable. At the present underfunded levels, 47 existing buildings slip into a state of disrepair requiring modernization each year.

THE CONSEQUENCES OF INADEQUATE POLICIES

The school system was overmatched by the surge in enrollment in the 1990s. An already bad situation was made worse by the Board and the City's policies of reducing spending per student and not pursuing more productive deployment of teachers and more intensive use of school buildings. Consequently, despite record levels of capital investment, crowding worsened and facilities became more deteriorated. Furthermore, the student body's poor record of academic achievement persisted.

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[25] *Ibid.*

[26] The only exception is very limited, temporary double-shifting at a few high schools to alleviate severe overcrowding.

[27] Figures in this paragraph are from Richard Delaney, *School Buildings for the Next Century: An Affordable Strategy for Repairing and Modernizing New York City's School Facilities* (NY: Citizens Budget Commission. September 1996).

Crowding Increased and Facilities Deteriorated

Despite almost $5 billion of capital investment between fiscal years 1990 and 1996, crowding became worse, facilities deteriorated, and the schools were still technologically insufficient. Moreover, class sizes grew, notwithstanding an additional $1.1 billion in annual spending on personnel.

Class sizes increased because, as enrollment rose, financial resources were used to increase compensation rather than to hire more teachers, and teacher productivity was stagnant. The average high school class grew from 30 to 32 students.[28] (See Table 7.) The number of high school classes with over 34 students, a threshold deemed especially troublesome, also increased. The average class size in kindergarten through grade three increased from under 25 students to 26 students. In grades four through nine the average class increased from 28 to 29 students.

Table 7
New York City Board of Education
Indicators of Crowding
Fiscal Years 1990-1996

	Fiscal Year							Percentage Change
	1990	1991	1992	1993	1994	1995	1996	1990-1996
Overcrowded School Buildings [a]	47.8%	48.4%	50.4%	50.4%	52.6%	53.5%	54.2%	13.3%
Elementary schools	50.7%	51.0%	52.7%	52.9%	54.9%	56.9%	59.1%	16.6%
Intermediate schools	23.9%	25.9%	26.2%	25.9%	26.5%	27.5%	25.8%	7.8%
High schools	71.0%	70.6%	74.8%	74.8%	82.1%	72.0%	63.7%	-10.3%
Students in Overcrowded Buildings	54.7%	56.3%	59.1%	59.1%	61.4%	62.2%	60.9%	11.3%
Elementary schools	54.9%	55.9%	57.3%	57.4%	59.4%	61.5%	64.0%	16.5%
Intermediate schools	26.7%	31.9%	31.2%	30.9%	31.8%	32.6%	30.4%	13.5%
High schools	75.8%	76.4%	83.5%	83.5%	87.7%	86.9%	77.9%	2.8%
Average Class Size								
Kindergarten through grade three	24.6	24.7	24.8	24.9	25.0	25.0	26.0	5.8%
Grades four through nine [b]	28.2	28.6	29.3	28.7	28.2	28.2	29.0	2.5%
High schools	30.4	30.9	31.8	31.7	31.5	32.1	32.2	5.9%
High School Classes with More than 34 Students								
Fall	2,236	4,883	5,907	5,551	6,252	6,483	5,211	133.1%
Spring	499	3,245	4,190	4,201	4,238	3,832	3,824	666.3%

Sources: City of New York, Mayor's Office of Operations, *The Mayor's Management Report*, fiscal years 1990-1996 editions. New York City Board of Education, *School Facilities: Enrollment-Capacity-Utilization* and *School Facilities: Enrollment-Capacity-Utilization High Schools*, school years 1989-1990 through 1995-1996 editions. Enrollment data provided by the New York City Board of Education.

Notes: [a] The percentage of buildings utilized at or over 100 percent of capacity.

[b] Includes only grade nine classes in intermediate schools.

[28] A survey of 15 high schools found that average general education class size increased from 31.6 in fiscal year 1994 to 33.0 in fiscal year 1996. City of New York, Office of the Comptroller, *Losing Ground: How Budget Cuts Have Affected Education* (NY: Comptroller, June 3, 1996).

School buildings deteriorated and became more crowded under the Board's flawed capital strategy. Because capital investment was divided between rehabilitating all existing dilapidated buildings to bring them into a state of good repair and constructing new buildings to relieve crowding and accommodate enrollment growth, neither objective was achieved. With respect to crowding, both the percentage of buildings operating at or above capacity and the share of students in crowded buildings increased. Notwithstanding the addition of 81 buildings, the percentage of buildings operating at or above capacity had risen from 48 percent in 1990 to 54 percent in 1996, and six out of every 10 students attended school in a crowded building.[29] Crowding increased the most in elementary buildings, from 51 percent to 59 percent. Almost 2 percent more intermediate school buildings were crowded in 1996 than in 1990. Although some grade nine students were shifted into high schools, the percentage of high school buildings operating above capacity declined, but 64 percent of these buildings remained crowded.

Crumbling schools also continued to be a fact of life for students and teachers in New York City. The *Year 2003 Master Plan*, a ten-year plan prepared in 1993, reported that funding to be made available in the first four years of the 1990s would equal only 20 percent of needed investment, and that the backlog of capital investment had increased from $5 billion to $7.8 billion since 1988. It found that "deterioration is occurring at a rate faster than we can save systems, and much of what needed repair in 1988...now needs replacement," and that 47 buildings were being added to the list of buildings needing modernization each year.[30]

The Board reports that due to lack of resources it has not conducted a comprehensive needs assessment since 1993, so identifying subsequent change in the physical plant's condition is difficult. However, there are strong indications that the condition of the schools continued to decline. The *Master Plan* estimated in 1993 that capital spending for state of good repair work would have to equal $1 billion per year to halt the deterioration. However, in the 1990-1996 period capital expenditures averaged $700 million per year, and only 44 percent of commitments were for state-of-good-repair work. Therefore, funding was less than one-third of the estimated need. This suggests that the deterioration continued, and may have accelerated. It is not surprising then, that in 1995 the Commission on School Facilities and Maintenance Reform reported a "series of near-fatalities from structural defects," and that a 1996 survey by the Comptroller's Office found many signs of decay, a repair backlog and serious maintenance problems.[31]

Spreading capital funds thinly between rehabilitation and new construction also did not allow the schools to be equipped with the technology necessary for preparing students for the 21st Century. Although the number of students per computer declined from 21 in 1990 to 15 in 1995, the Board recommends ratios of 8-to-1 in elementary and intermediate schools and 6-to-1

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[29] As noted earlier, these figures do not include separate special education buildings and alternative high schools because of inconsistent data.

[30] New York City Board of Education, *op. cit.*, April 28, 1993, p.4.

[31] Commission on School Facilities and Maintenance Reform, *op. cit.* City of New York, Office of the Comptroller, *op. cit.*

in high schools.[32] Computer access in the City was still far worse than in the rest of the state, where there were fewer than 9 students per computer in 1995. In fact, by 1995 the City still had not caught up to where the rest of the state was in 1990. The *Master Plan*, prepared in 1993, revealed the inadequacy of the Board's investment in technology by acknowledging that only 25 percent of the necessary technological improvements would be completed by 2003. This is confirmed by the Board's *Strategic Technology Plan*, prepared in 1997, which recommends a $2.1 billion investment in technology.[33]

Academic Achievement Continued to be Poor

The poor academic performance prevailing in 1990 continued through 1996. City students fared poorly in reading competency, both in absolute performance and in relation to students across the state. The performance of grade three students declined the most; the share meeting the SRP dropped from under two-thirds to 59 percent between 1990 and 1996.[34] (See Table 8.) Although performance in 1993 was close to that in 1990, achievement declined thereafter. The gap between New York City public school pupils and other students in the state also widened; by 1996 almost 20 percent more students statewide met the SRP. The decline in achievement for students in grade six was almost as dramatic, with a 9 percent drop in the percentage of students meeting the SRP and a significant increase in the gap with others in the state. Relative to their younger counterparts, students in grade eight fared well, with only a slight decline in students meeting the SRP.

It should be noted that in fiscal year 1997, there was improvement in the reading scores on the City-administered test. However, since 1997 was the second year of a newly-administered test, it is not possible to conclude that there have been sustainable improvements in reading skills.

Performance in mathematics was a bright spot for New York City students. Achievement in both grades three and six improved, and the gap with others in the state narrowed. In the beginning of the 1990s the share of students meeting the SRP dropped in both grades. However, between 1993 and 1996 the share increased 8 percent for students in grades three and six. Furthermore, the achievement gap with the state for both groups narrowed from 11 to 7 percent for grade three and from 12 to 9 percent for grade six.

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[32] New York City Board of Education, *Strategic Technology Plan* (NY: NYCBOE, June 1997). Calculated from data in New York State Education Department, *op. cit.*, February 1996, New York State Education Department, *Public School Enrollment and Staff*, 1990-1991 through 1994-1995 editions, and data provided by the New York State Education Department.

[33] New York City Board of Education, *op. cit.*, June 1997.

[34] Evaluating academic achievement in terms of the percentage of students performing at or above grade level is difficult due to changes in the tests and test administration. Although Table 8 includes this indicator for illustrative purposes, the following evaluation uses the State's Pupil Evaluation Program (PEP) tests and Preliminary Competency Tests (PCT), which are administered consistently statewide. These show the share of students who meet the State Reference Point (SRP), which is approximately one grade level below those tested.

Table 8
New York City Board of Education
Indicators of Academic Achievement
Fiscal Years 1990-1996

	Fiscal Year							Percentage Change
	1990	1991	1992	1993	1994	1995	1996	1990-1996
Reading Performance								
Grade 3								
NYC students above State Reference Point	65.5%	64.4%	59.8%	64.9%	64.1%	61.4%	59.1%	-9.8%
NYS students above State Reference Point	80.8%	80.8%	78.7%	81.5%	81.5%	79.5%	78.9%	-2.4%
Difference between NYC and NYS	15.3%	16.4%	18.9%	16.6%	17.4%	18.1%	19.8%	29.4%
NYC at or above grade level [a]	36.6%	36.5%	33.8%	38.0%	37.6%	34.7%	42.5%	NAP
Grade 6								
NYC students above State Reference Point	71.0%	73.6%	68.9%	65.3%	66.1%	68.7%	64.4%	-9.3%
NYS students above State Reference Point	84.1%	85.4%	83.8%	82.5%	82.8%	83.7%	82.2%	-2.3%
Difference between NYC and NYS	13.1%	11.8%	14.9%	17.2%	16.7%	15.0%	17.8%	35.9%
NYC at or above grade level [a]	47.9%	51.5%	47.5%	41.9%	42.3%	48.3%	36.8%	NAP
Grade 8								
NYC students above State Reference Point	83.4%	84.3%	83.2%	82.8%	82.3%	81.2%	81.1%	-2.8%
NYS students above State Reference Point	90.1%	91.4%	90.8%	90.9%	90.3%	90.0%	90.1%	0.0%
Difference between NYC and NYS	6.7%	7.1%	7.6%	8.1%	8.0%	8.8%	9.0%	34.3%
NYC at or above grade level [a]	47.9%	45.9%	45.0%	45.0%	48.1%	46.8%	42.3%	NAP
Mathematics Performance								
Grade 3								
NYC students above State Reference Point	86.6%	82.8%	81.0%	81.5%	85.4%	88.7%	88.4%	2.1%
NYS students above State Reference Point	94.1%	92.2%	91.9%	92.3%	94.0%	95.4%	95.3%	1.3%
Difference between NYC and NYS	7.5%	9.4%	10.9%	10.8%	8.6%	6.7%	6.9%	-8.0%
NYC at or above grade level [b]	60.4%	61.3%	59.3%	53.5%	53.1%	57.0%	57.8%	NAP
Grade 6								
NYC students above State Reference Point	79.7%	78.9%	79.3%	78.2%	78.3%	80.2%	84.2%	5.6%
NYS students above State Reference Point	90.7%	89.9%	90.8%	90.3%	90.6%	91.6%	93.3%	2.9%
Difference between NYC and NYS	11.0%	11.0%	11.5%	12.1%	12.3%	11.4%	9.1%	-17.3%
NYC at or above grade level [b]	56.0%	63.7%	59.9%	46.5%	50.5%	52.1%	62.6%	NAP
Writing Performance								
Grade 5								
NYC students above State Reference Point	80.5%	82.3%	84.3%	79.9%	81.1%	80.3%	82.4%	2.4%
NYS students above State Reference Point	89.7%	91.2%	92.4%	90.2%	90.6%	90.6%	91.6%	2.1%
Difference between NYC and NYS	9.2%	8.9%	8.1%	10.3%	9.5%	10.3%	9.2%	0.0%
Grade 8								
NYC students above State Reference Point	88.8%	85.5%	86.2%	83.3%	87.8%	86.0%	86.6%	-2.5%
NYS students above State Reference Point	92.9%	91.2%	91.7%	92.2%	92.3%	91.2%	91.7%	-1.3%
Difference between NYC and NYS	4.1%	5.7%	5.5%	8.9%	4.5%	5.2%	5.1%	24.4%

Sources: City of New York, Mayor's Office of Operations, *The Mayor's Management Report*, fiscal years 1990-1996 editions. New York State Education Department, *Comprehensive Assessment Report: Reference Group Summaries*, 1990-1996 editions.

Notes: [a] Tests were not consistent over the period. In fiscal year 1996 the Degree of Reading Power test was replaced with the California Achievement Test, therefore, fiscal year 1996 data cannot be compared with prior years.

[b] Tests were not consistent over the period. In fiscal year 1991, tests were administered over two days instead of one day to students in grade six. In fiscal year 1993 the Metropolitan Achievement Test was replaced by the California Achievement Test.

NAP - Not applicable.

High school graduation is a critical indicator of the schools' performance because a diploma is important for future employability and earnings, in addition to being essential for entrance to higher education. Overall, more students are taking longer than four years to

graduate. Between 1991 and 1996 the percentage of students graduating in four years fell from 51 to 48 percent. (See Table 9.) Since fewer students were dropping out, the share still enrolled after four years increased from 28 to 35 percent. These trends could indicate a decline in performance. However, that judgment should be made with caution since higher standards could also cause students to spend more time in high school. Although students are staying in school longer than four years, more of them are graduating by seven years. However, anomalies in the data make this increase difficult to evaluate; the method for counting the cohort of seven-year graduates may have skewed this statistic.[35]

Table 9
New York City Board of Education
High School Graduation and Dropout Rates
Fiscal Years 1990-1996

	Fiscal Year							Percentage Change
	1990	1991	1992	1993	1994	1995	1996	1990-1996
High School Graduates and Dropouts - 4-Year Cohort [a, b]								
Graduates	NA	51.0%	50.7%	49.7%	50.7%	48.2%	48.3%	-5.3%
Dropouts	NA	20.5%	19.1%	18.4%	18.3%	18.1%	16.4%	-20.0%
Still enrolled	NA	28.5%	30.2%	31.9%	31.0%	33.7%	35.3%	23.9%
High School Graduates and Dropouts - 7-Year Cohort [b]								
Graduates	65.9%	67.6%	66.7%	67.1%	NA	69.7%	70.9%	7.6%
Dropouts	34.1%	32.4%	33.3%	32.9%	NA	30.3%	29.1%	-14.7%
Graduates Receiving Regents Diplomas								
New York City [c]	22.4%	21.0%	19.7%	21.0%	19.5%	21.3%	19.0%	-15.2%
New York State	24.6%	25.7%	25.9%	25.9%	26.7%	35.5%	35.8%	45.4%
Difference between NYC and NYS	2.2%	4.7%	6.2%	4.9%	7.2%	14.2%	16.8%	660.3%

Sources: New York City Board of Education, *The Class of 1996 Four-Year Longitudinal Report and 1995-96 Event Dropout Rates* (NY: NYCBOE, undated). Seven-year cohort data provided by the Board of Education. New York State Education Department, *Comprehensive Assessment Report: Reference Group Summaries*, 1990-1996 editions.

Notes: [a] The percentage change covers fiscal years 1991-1996.

[b] Cohort figures do not include students who transferred out or were discharged. Inclusion of these students would decrease graduation and dropout rates. Changes in the numbers of these students over time can also affect trends. For example, controlling for these students changes the 1.2 percent increase between 1995 and 1996 in seven-year graduation rates to a 0.7 percent decrease.

[c] Data provided by the Mayor's Office of Operations differ from these State data. The Office of Operations reports that the Regents Diploma rate increased from 24.6 percent to 29.2 percent between fiscal years 1990 and 1996. The State data are used here because they provide a statewide comparison and include a larger share of graduates.

NA - Not available.

If students meet New York State standards which are higher than the Board's, they are eligible to receive a Regents Diploma. Data from the State Education Department and from the City Office of Operations provide different evidence on the trend in Regents Diplomas in New York City. (Refer to Table 9.) New York State data show that during the 1990-1996 period the percentage of graduates from New York City public schools who received a Regents Diploma

[35] Cohort figures do not include students who transferred out or were discharged. Inclusion of these students would decrease graduation and dropout rates. Changes in the numbers of these students over time can also affect trends. For example, controlling for these students changes the 1.2 percent increase between 1995 and 1996 in seven-year graduation rates to a 0.7 percent decrease.

decreased from 22 percent to 19 percent, while it increased from 25 percent to 36 percent for the state as a whole. Thus, the share of New York City graduates meeting the tougher standards declined, and the gap with the rest of the state increased. The City's Office of Operations reports that the percentage of New York City students *expected* to graduate who received a Regents Diploma increased from 25 percent to 29 percent in the same period. The difference between the two sets of data reflects the growing share of students who do not graduate when *expected*, and who, as a group, receive Regents Diplomas at a lower rate.

The quality of special education services also did not improve. Many students still were in totally segregated settings with limited mainstreaming opportunities, and many students continued to be referred to special education due to the failure of the general education system rather than due to disabilities. In fact, the decline in resources during the 1990-1996 period has been cited as a cause for the 50 percent growth in students in part-time special education. *Focus on Learning* argues that "continuing to impose budget cuts on general education inevitably results in forcing more students into special education" because it depletes the ability of general education to meet the diversity of student needs.[36] Since the structure of the system has not changed, there is no reason to believe that academic performance improved. Although few data on academic performance are available, unpublished data on 2,404 students in one district tracked over three years show improvements for general education students, no change for part-time special education students, and a decline for students in self-contained classes.[37]

In November 1996 Chancellor Rudy Crew issued a plan to reform special education.[38] The plan's major initiatives are intended to address many of the program's problems. At this point there has not been sufficient experience to evaluate the reforms. Furthermore, portions of the plan depend on changes in State law which have yet to be enacted.

Although the entire student body's academic achievement generally declined, this cannot be directly attributed to the reduction in resources, the increase in student-teacher ratios, the increase in crowding, or the continued deterioration of the school facilities. Pedagogical initiatives also play a critical role in academic performance. In fact, the decline in performance appears to be less than the decline in resources per student. One could conclude that some pedagogical initiatives were effective in partially mitigating the effect of the drop in financial and human resources. However, in the face of the continued poor performance, this provides little solace to children and families in need of decent schools.

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[36] Fruchter *et al.*, *op. cit.*, p. v.

[37] Data provided by the New York University School of Education.

[38] New York City Board of Education, *Implementation Plan to Achieve the Objectives for Special Education Set Forth in the Strategic Plan for the New York City Schools, 1996-1999* (NY: NYCBOE, November 20, 1996).

CONCLUSION

The performance of New York City's public schools thus far in the 1990s has been poor. When the decade began, students were in crowded, dilapidated schools, and their academic achievement was weak. As the decade progressed, crowding intensified, school conditions deteriorated, and class sizes grew. Moreover, the City and the Board did not attempt to alleviate these problems by using teachers and school buildings more productively.

The outlook for the future is bleak. Continued enrollment growth will place additional demands on the schools. Under current policies, available funds will be insufficient to eliminate crowded buildings, reduce class sizes, bring all the buildings into a state of good repair, and outfit the schools technologically for the next century. Real spending per student was flat in fiscal year 1997 and is projected to decline 1.1 percent in 1998.[39] Furthermore, significant increments in capital investments are threatened by the rapidly rising cost of repaying outstanding debt.

In such an environment, increased productivity is essential to protecting and enhancing primary and secondary education. Only if teachers spend more time in the classroom and buildings are used more intensively will funds be sufficient to address the schools' needs.

The prospects for a reversal of the City's policies in these areas are not promising. To the contrary, the latest collective bargaining agreement with the UFT, signed in 1996, assures that teachers will spend the same amount of time in front of the classroom through 2000. It also relieves teachers of certain administrative duties, a provision that will add $70 million annually in costs due to the need to hire non-pedagogical replacement staff.[40] Additionally, a pension enhancement bill passed by the State Legislature (but not yet signed by Governor George E. Pataki) would add costs while prematurely depriving the system of some of its most experienced teachers.[41] Finally, unless the special education system is reformed, it will continue to drain resources from general education without helping the students it serves.

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[39] Based on increases of 18,261 students in 1997 and 18,000 in 1998. Expenditures for fiscal years 1997 and 1998 reported in City of New York, Office of Management and Budget, *Adopted Budget: Expense, Revenue, Contract, Fiscal Year 1998* (NY: OMB, June 6, 1997), and projections of the consumer price index for the New York-Northeastern New Jersey Region are from City of New York, Office of Management and Budget, *Monthly Report on Current Economic Conditions* (NY: OMB, July 23, 1997).

[40] Board of Education estimate cited in Laura Williams, "$70 Million Now Eyed to Replace Teachers," *Daily News*, May 29, 1997.

[41] Over time, the pension system has been modified to be more affordable. Employees hired before July 1, 1973, are part of the most generous pension plan, Tier 1, which allows employees to retire at age 55 after 25 years of service with 55 percent of their final year's earnings including overtime. Employees retiring earlier receive a smaller percentage. Due to fiscal pressures, the retirement age was increased to 62 for employees hired on or after July 1, 1973, and the base on which pensions are calculated was lowered to a modified average (excluding some overtime pay and capping total included earnings) of the final three years' pay. The new bill would allow all teachers with 10 years in the system to retire at age 55 without penalty.

The prospects for more intensive use of school buildings are no brighter. An extremely limited experiment with year-round schooling has been scheduled for the 1998-1999 school year. Otherwise, no plans have been developed to reverse the wasteful underutilization of the Board's physical plant. Consequently, the City will allocate billions of dollars to a misguided capital strategy that will not accommodate the demands of enrollment growth, that will continue to lose ground to deterioration, and that will not produce a technologically up-to-date learning environment.

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